PRESENTATIONS

Presentations were made during the meeting that focused on the "fact sheets" provided to participants prior to the meeting.

Mr. Jim Goerke, representing the National Emergency Number Association (NENA), made a presentation focusing on the FCC, Congressional, and PSAP involvement in the deployment of WE9-1-1. He also made a presentation focusing on the WE9-1-1 implementation process and its status.

Mr. Stephen Meer of Intrado, Inc. presented issues associated with WE9-1-1 deployment readiness from a technical perspective. Mr. Meer's presentation focused on three primary issues: an overview of wireline E9-1-1; overview of wireless E9-1-1; and secondary issues affecting 9-1-1 services.

In addition, Kathryn Condello of Cellular Telecommunication and Internet Association (CTIA) made a presentation of the current state of the wireless communication industry, specifically as it relates to WE9-1-1.

KEY FINDINGS FROM WORK SESSIONS

The focus of the work session was to identify how DOT could assist stakeholders in accelerating the deployment of WE9-1-1. Discussions during this activity focused on four primary areas: **leadership, models and education, funding, and PSAP readiness.** Key findings are summarized below.

Leadership

- Regular stakeholder meetings and supporting legislation will help to foster accelerated deployment of WE9-1-1. Adoption of State legislation to support accelerated deployment is needed.
- Participation is not complete without the leadership of LECs, medical community, wireless carriers, transportation service providers, and public safety.
- Current FCC wireless 9-1-1 rules address PSAP and wireless carrier responsibilities while overlooking those of LECs.
- Demonstrated commitment is needed by the Federal Government to drive accelerated deployment.
- Statewide points-of-contact for WE9-1-1 implementation help speed deployment. According to the National Association of State 9-1-1 Administrators (NASNA), only 32 States have 9-1-1 points-of-contact.

Models and Education

- All PSAPs need to meet a minimum baseline in terms of functionality.
- State implementation models should address technical and institutional approaches, relationships among stakeholders, model contracts, and service agreements.
- Targeted awareness campaigns for stakeholders should be implemented as needed.

- The number of "standards" should be limited. To help foster this, the Expert Working Group should work with TIA and other organizations in reviewing and monitoring standards activities.
- Various technology options should be explored since there will not be one specific solution that fits each and every state.
- A point-of-contact is needed at each state who can convene a range of stakeholders.

Funding

- Governors should assess State needs and funding methods.
- Costs associated with Phase I and Phase II implementation are unknown and need to be defined as best possible. Cost models need to be developed to guide States.
- Lessons learned and best practices related to Phase I implementation and operation should be shared among States.
- Financial responsibilities among stakeholders need to be clarified.
- States need plans to ensure that adequate funding is provided for implementation and operation of WE9-1-1.

PSAP Readiness

- Technical training will be needed for PSAPs.
- Commitment on behalf of PSAP and public safety first responder leadership will be a critical success factor.
- Monitoring PSAP readiness nationally will provide lessons-learned and best practices for other states deploying Phase I and Phase II services.

PRESENTATIONS – STATUS OF WIRELESS E9-1-1

The following provides a summary of presentations made during the meeting. These presentations focused on fact sheets provided to participants prior to the meeting and included a discussion of the current state of the industry. Additionally, ensuing comments are also captured below.

The Public Safety Setting

Mr. Jim Goerke, representing NENA, made a presentation focusing on the FCC, Congressional, and PSAP involvement in the deployment of WE9-1-1.

Mr. Goerke also distributed WE9-1-1 deployment summary fact sheets. Mr. Goerke focused on the October 2001 FCC ruling, which established when carriers are required to provide WE9-1-1 service and definition of PSAP readiness. According to Mr. Goerke, PSAP readiness as defined by the FCC is generally characterized by:

- Ability to collect costs of accepting service;
- Equipment installation; and
- Timely requests to Local Exchange Carriers (LECs)

Mr. Goerke also discussed the Wireless Communications and Public Safety Act of 1999, which speaks specifically to the deployment of a nationwide, seamless communications infrastructure of emergency services that include wireless communications.

Implementation Process and Status

Mr. Goerke also made a presentation focusing on the WE9-1-1 implementation process and its status.

Mr. Goerke commented that the process of successfully implementing WE9-1-1 required involvement from a wide variety of stakeholders. Nationally all but 10 states have passed wireless legislation to foster implementation and cost recovery. In addition, 40% of PSAPs nationally have deployed Phase I capabilities, while only three locations in three states have implemented Phase II capabilities, including Rhode Island, Indiana, and Illinois.

In response to Mr. Goerke's presentation a spokesman from the FCC commented that the waivers issued by the agency in October of 2001 were some of the most complicated issues that the agency has ever had to deal with. In part this is a result of time required to implement new technology, implementation of new services, and stakeholder coordination that is required. To date, two carriers have been referred to the Enforcement Bureau based on the timing of their filings. The FCC hopes this is not a trend.

Technical Issues

Mr. Stephen Meer of Intrado, Inc. presented the technical issues associated with WE9-1-1 deployment readiness from a technical perspective. Mr. Meer's presentation focused on three primary issues, an overview of wireline E9-1-1, overview of wireless E9-1-1, and secondary issues affecting 9-1-1 services.

Existing wireline 9-1-1 service involves state and local government, LEC, and the PSAPs. If the LEC that provides a dial tone they are obligated to provide 9-1-1 services and maintain a database with the customer information to enable E9-1-1 services.

As identified by Mr. Meer the primary technical challenges associated with WE9-1-1 are:

- Required location technologies for Phase II;
- Embedded databases that are dramatically different from region to region;
- Mobility – the telephone number no longer defines where the caller is located;
- Differing regional methodologies. Typically the LEC is the 9-1-1 provider, and again, these vary regionally;
- Because of the current technology and infrastructure 9-1-1 cannot take advantage of innovations from other sectors;
- Existing standards are inadequate for wireless and LEC industries; and
- The wireless industry needs to become more mainstream.

Secondary issues of concern in providing WE9-1-1 include system capacity, scale, and management of network congestion. Additional issues related to deployment and operation of the system includes system funding, provision of adequate manpower, and

associated institutional issues. WE9-1-1 systems are not being developed from scratch; many legacy systems have to be considered. Additionally, there are many pressures on E9-1-1 systems to comply American with Disabilities Act (ADA) requirements. These challenges are further complicated when coordinating with LEC's and telematics service providers.

Further, public safety agency education is a huge issue. Many public safety agencies do not understand issues or implications of WE9-1-1. When systems are being implemented, questions left unasked often cause additional problems. An issue is whether systems should be developed and implemented in one "quantum leap." Further, there is a question as to how much some agencies are willing to absorb to accommodate WE9-1-1 functionality.

Industry Status

Kathryn Condello of Cellular Telecommunications and Internet Association (CTIA) commented on the status of the WE9-1-1 industry, and factors affecting national deployment. This discussion led by Ms. Condello did not utilize presentation materials.

According to Ms. Condello, there has been a significant surge in cellular telephone service subscribers. Today there are approximately 113 million subscribers. Many factors have contributed to this including a general trend by consumers to replace traditional landline phone service with cellular phone service. Cellular carriers are also in a very awkward position right now, in part because of the number of requests for deployment of Phase I services. As an example, one carrier currently has requests for service at 2100 PSAPs and another two carriers have requests for Phase I services at 700 PSAPs. In addition, the deployment of Phase I services is very slow for PSAPS as well for a variety of reasons. In part it has been a rude awakening for PSAPs. The process is labor intensive and most PSAPs are relatively small, under funded, and under staffed.

Further, Ms. Condello commented that from the carriers' perspective, the biggest risk in Phase II deployment is that a carrier generally serves multiple PSAPs, especially in large metropolitan areas that cross state boundaries. Each PSAP in a region may not have the same functionality, and these differences are very difficult to explain to cellular carriers. For example, Arlington County, VA is state of the art with Phase I, but other counties in the DC metropolitan area are not similarly equipped. As such, when a wireless user crosses into the District of Columbia or Fairfax County they may not have the same level of emergency services.

Bill Hinkle noted that concerns raised over the "service level" issue regarding wireline E-9-1-1 in Ohio in the 80's. In this instance carriers did not want varying levels of service across the state. Mr. Hinkle concluded that if we try and solve all of our potential challenges before we deploy we would never get anything done.

CTIA is interested in supporting individual PSAPs bring these capabilities on-line. A rational nationwide deployment needs to occur where individual PSAPs can capitalize on collective actions and policies. Absence of guidance is a major problem because the

clock is ticking and carriers will be deploying WE9-1-1 capabilities and PSAPs need to be ready to handle to calls.

The challenge of deploying WE9-1-1 may be in part solved by providing top-down guidance that enables carriers to streamline deployment. Further, it may enable many to capitalize on collective investments in guidance. CTIA hopes the WE9-1-1 Expert Working Group will have reps from State, local, medical, police that assist in crafting solutions and approaches that can be followed on a National level. If so, this will be the most important policy initiative the U.S. could take at this moment. Further, it is hoped that benchmark states, perhaps such as Iowa and North Carolina, can be identified and other may learn from their experiences in deploying statewide WE9-1-1.

Maureen Napolitano characterized the challenges Verizon is experiencing with WE9-1-1 as:

- The ability to deploy WE9-1-1 on a state level versus in independent counties; and
- Educating public safety and PSAP personnel, as well as consumers. Average consumers believe they currently have at least Phase I capabilities, when often this is not the case.

Ms. Napolitano indicated that potential solutions to these challenges might include state-level guidance on implementation and public education on current service limitations

Jay Scott speaking on behalf of the challenges in New York State indicated that counties are trying to figure out costs annually incurred for 911 calls. However, counties will all be ready for Phase II next year. Further public agencies are concerned with letting the public know their calls cannot be traced. Knowing this would not deter hoaxes.

Mr. Hinkle concluded that if we try and solve all of our potential challenges before we deploy we would never get anything done.

Mr. Tom Steele representing International Association of Chiefs of Police (IACP) indicated that there is also a significant problem of interoperable communications of first responders. The problem is not just law enforcement, but also involves all public safety responders, and transportation service providers. Mr. Steele concluded that legislatures need to be informed through an outreach effort as to the critical importance of interoperability.

CURRENT STATUS AND OTHER INITIATIVES

Mr. Hinkle opened up a dialogue among the Expert Working Group participants to discuss their current E9-1-1 activities.

Mr. Steve Browne representing the ITS Public Safety Advisory Group (PSAG) commented that this is one initiative where we are trying to bring two different cultures together, public safety and transportation. Mr. Browne indicated that the WE9-1-1

subcommittee of the PSAG has done a lot of good work that the Expert Working Group could benefit from, and role into its activities.

In regard to WE9-1-1, Kathryn Condello indicated that implementation delays are not always related to money, but rather political and institutional issues. Further, Ms. Condello concluded that this group needs to stay away from finger pointing with this initiative.

Woody Glover representing the Association of Public Safety Communications Officials (APCO) indicated that educating public safety agencies is one of the primary focuses of the organization. This is being initiated through a variety of activities including wireless symposiums, and Project 38 (now Project LOCATE). In addition, APCO has identified fifty model communities, one in each State to transfer their experiences to other cities and states that may benefit from them. These communities are not necessarily technology leaders though. A joint NENA/APCO symposium will also be held in the near future.

Ms. Kathryn Condello also noted there are a couple issues that influence WE9-1-1 deployment and operation. First, during major emergencies the number of cellular calls that are placed rises significantly, causing network congestion. During the attacks on the World Trade Center call volumes jumped by over 1300%. With this in mind there is a Federal request for priority access. Services that would then be provided to cellular customers would be low reliability, but still with high call volumes. In addition, Ms. Condello commented that there is a lack of requirements for testing WE9-1-1 functions, especially as it relates to accuracy for Phase II. The FCC is beginning to consider these issues.

Maureen Napolitano of Verizon indicated that PSAPs generally have an unrealistic expectation of how quickly WE9-1-1 services can be implemented. They tend to believe that they just have to ask and it is implemented immediately. Currently none of the major Verizon cities, including Boston, New York, Washington, DC, Philadelphia, or Los Angeles) have Phase I capabilities yet. Ms. Napolitano indicated that Virginia, Michigan, and Illinois are the most aggressive states in trying to meet these goals.

John Benson from the State of Iowa, representing NASNA, and speaking on Phase I implementation in his state indicated that although there were conflicts, it went rather smoothly. Mr. Benson indicated that every state will have its own set of problems whether it by funding, turf battles, or personalities. Iowa benefits from the political support it receives. One of the key problems it does experience is that although it is a full cost recovery state, but it can't get cost data from wireless carriers. The networks in the State of Iowa are ready for Phase II deployment. Some carriers do not want Phase II cost recovery. The path to Phase II deployment is largely unclear for reasons other those technical in nature.

Jay Scott speaking in regards to the New York Statewide Demonstration project the three major challenges associated with the project included

- Call routing;
- Closest car dispatch
- Funding

Mr. Scott concluded that in part these challenges were mediated by a statewide agreement. State Department of Public Health has a reimbursement provision for dispatch equipment and will help with upgrades for Phases I and II. Customer surcharges will go to the State Police, not PSAPs.

Thom Rubel speaking on behalf of the National Governors Association indicated that his association helps governors share lessons learned. According to Mr. Rubel public safety is a primary concern for governors today, as is infrastructure protection and information security. Mr. Rubel also stated that funding is always an issue that needs to be articulated and made known. Mr. Rubel indicated that funding is always available but it is an issue of priorities. Governors have a significant amount of power and need the issues made clear to them.

Mr. Hinkle commented that although the challenges identified are complex, the solutions need to be simple and clear for those implementing WE9-1-1.

In concluding these discussions, Mr. Goerke commented that there is often a lack of coordination at the level where 9-1-1 functions reside. It is the governors role to ensure coordination.

WIRELESS E9-1-1 INITIATIVE OBJECTIVES

The focus of this activity was to identify the various objectives for the Secretarial Initiative, as well as roles that stakeholders, including Secretary, DOT Staff, Expert Working Group, and the Steering Committee, could play in the Secretarial Initiative to accelerate the deployment of WE9-1-1. Roles that various individuals and organizations can play were essentially characterized into the following groups that are described below:

- Leadership;
- Models and education;
- Funding; and
- PSAP readiness.

Mr. Hinkle started this activity by commenting that based on events that have transpired nationally we are at ideal point in time to deploy WE9-1-1. Mr. Hinkle commented that this is the sole reason we are assembled here today, to utilize the collect will and expertise to move forward with the accelerated deployment of WE9-1-1. Mr. Hinkle also stated that this activity will serve as a forum to identify barriers to the accelerated deployment of WE9-1-1. Issues can then be taken to the appropriate group or individual to act upon. Issues may be related to:

- Bureaucracy;
- Legislative;
- Leadership; and
- Funding.

Mr. Stephen Meer commented that goals need to be made clear before the group begins. He stated that there are things technically and institutionally that we can do to foster

accelerated deployment of WE9-1-1. But there remains a question about automated crash notification (ACN) and other projects.

Jeff Michael, NHTSA, indicated that this initiative provides an ideal opportunity for industry leaders to define a path leading to accelerated deployment of WE9-1-1 that has the support and influence of the Secretary.

Mr. Goerke commented that although standardized solutions may be very beneficial, it is likely that customized solutions will ultimately foster the most accelerated deployment of WE9-1-1. In response to Mr Goerke, Ms. Condello stated that if "greenfield/silver bullet" solutions are not defined, they may be precluded further slowing the deployment of WE9-1-1 in some areas.

Jeff Michael noted that as described in Mr. Flaherty's presentation there is an innovation track as part of the Secretarial Initiative. This track will bring together technology experts to identify short and long-term technological solutions to the WE9-1-1. This track will evolve in parallel to the Expert Working Group and their findings will be reported back to this group.

Mr. Hinkle posed the question to Mr. Benson about what could have sped up deployment of WE9-1-1 in Iowa. Mr. Benson identified two issues.

(1) Mapping capabilities are needed. Currently only 25 out of the 138 PSAPs statewide can do it now. An RFI has recently been released by the State of Iowa to get feedback on various vendors mapping capabilities.

(2) The E2 link in the network does not fit easily in the FCC cost recovery demarcation. Wireless carriers, LECs, and PSAPs all say they cannot pay for it.

Mr. Meer commented that he is also concerned with the notion that PSAPs need high-end CPEs to provide Phase II capabilities. Mr. Meer indicated that there might be simple solutions that use PC and simple mapping software. The point is that things do not have to be perfect to get started.

Mr. Browne indicated that what the initiative is needed to be clarified. In response to this question Mr. Paniati indicated this group needs to identify issues that can be take forward to the Secretary and other organizations that will help to foster the accelerated deployment of WE91-1.

From this discussion came the category of issues that this group may approach related to leadership, models and education, funding, and PSAP readiness.

Leadership

Ms. Condello indicated that successful WE9-1-1 deployment is highly predicated on leadership. She stated that states making substantial progress have strong leadership. As an example, with leadership that State of Iowa went from nothing to Phase I in 20 months. Further, many states are in a predicament in that there is not a lot of time for states to go from nothing to Phase II.

There was some disagreement as to whether a broad public safety view was needed at the state level. Mr. Meer indicated that this is not a barrier to deployment of Phase II. Mr. Meer indicated that virtually all PSAPs are connected to police, fire, or EMS. Mr. Steele and Ms. Condello were in agreement that all of public safety needs to be involved with the deployment of WE9-1-1.

There was also some discussion about providing latitude/longitude data to a PSAP and whether there would be any privacy issues associated with it. Further, Ms. Condello concluded that states with most effective approaches to the provision of WE9-1-1 services have good revenue mechanisms.

In addition, it was recognized that states need a focal point for leadership. Perhaps the most effective way to accomplish this is for the governors to appoint a leader, or single point of contact. According to NASNA only 32 states have a single point of contact for WE9-1-1. Thom Rubel indicated that developing an issue paper that identifies needs might be an effective way to foster this.

To emphasize the important of LEC involvement Mr. Meer indicated that 70% of Phase I requests have been stopped because of disconnect among LEC, wireless carriers, and PSAPs. Less than 1% of implementation "stalls" are due to technology issues. The primary reason for this is that LECs were not involved. In part, participation may have been somewhat limited because the FCC rule on WE9-1-1 only specifically addresses wireless carriers, PSAPs, not LECs.

Further, Mr. Goerke: indicated that political implications must be addressed. Governors, and state legislators need to be actively involved to foster accelerated deployment of WE9-1-1.

Key points identified during this discussion of leadership include:

- Regular stakeholder meetings and supporting legislation will help to foster accelerated deployment of WE9-1-1;
- Participation is not complete without the leadership of LECs, medical community, wireless carriers, transportation service providers, and public safety;
- Adoption of supporting legislation;
- Demonstrated commitment on behalf of the Federal Government to drive implementation; and
- Accelerated deployment of WE9-1-1 will be fostered though governors appointments of someone to lead the efforts.

Models and Education

Kathy Condello questioned whether models could be developed for WE9-1-1 deployment in the absence of any that might exist today. Mr. Hinkle indicated that there is nothing conceptually wrong with defining a model, as long as it is understood that each state will need to deviate to meet individual needs.

Mr. Paniati asked if the DOT should be working with other organizations to get WE9-1-1 on their agenda. There was a general agreement among stakeholders that this would be in the best interest of making this a successful initiative.

There were also discussions about standards and how they relate to WE9-1-1. Mr. Meer indicated that TIA wrote a standard with NCAS that essentially could have 10 different interpretations. Ms. Condello indicated that vendors will do what their customers want, and this needs to be reconciled with TIA.

Key points identified during this discussion of models and education include:

- PSAPs need to be brought up to a baseline in terms of functionality;
- State implementation models should include among other things technical and institutional approaches, nature of relationships, model contracts, and service agreements;
- Targeted awareness campaigns for stakeholders should be implemented as needed;
- The number of "standards" should be limited. To help foster this, this group should work with TIA and other organizations in reviewing and monitoring standards activities;
- Various technology options should be explored since there will not be on specific solution that fits each and every state; and
- A point of contact is needed at each state that will convene the stakeholders.

Funding

It was generally agreed that there are a number of issues to be dealt with including lack and distribution of funds. With identifying issues related to funding comes the realization that there really are no simple answers to these questions. And again, the answers and optimal funding approaches will vary from state to state.

It was also agreed that the initial meeting of the Expert Working Group would not be an ideal setting to define a funding distribution and allocation model. Further complicating efforts to develop models is that there is no national cost model right now. Challenge states may be able to help define some of these unknown variables. It may also help to identify some of the financial responsibilities.

Mr. Hinkle indicated that until we deploy WE9-1-1 we won't understand the entire cost of system deployment and operations.

Key points identified during this discussion of funding include:

- Governors need to assess state needs and funding methods;
- Costs associated with Phase I and Phase II are unknown;
- Cost models need to be developed to guide states;
- Lessons learned and beast practices related to Phase I implementation and operation should be shared among states;
- Financial responsibilities need to be clarified; and
- States require funding plans to ensure that adequate funding is provided for implementation and operation.

PSAP Readiness

In regards to PSAP readiness, Mr. Hinkle noted that it is critical to get the full support of first responders as well. As such, the support and input of IACP and other organizations in these initiatives is very important.

Continuing with this theme, Mr. Paniati noted that there is significant value in getting national associations to adopt and or endorse E911 Phase II as part of their "platform."

Ms. Condello posed the question as to what the "challenge" is for the states? Ms. Condello stated that given the diversity of PSAPs nationally that goals for each state will inevitably be different. Further she stated that CTIA would commit to tasking the carrier representatives in that state to meeting the challenge in that state. The hurdles need to be used as templates to the greatest extent possible.

In response to this comment, Mr. Michael concluded that the state challenge is an option to identify midpoints in the process, not just the endpoint.

Mr. Meer indicated that there are two primary implementation issues, activation and scaling. Both of these issues are primarily resource related. Mr. Meer commented that calls to PSAPs will change with Phase II. Currently some PSAPs do not accept any wireless calls, where some take calls on statewide level.

Key points identified during this discussion of PSAP readiness include:

- Technical training will be needed for PSAPs;
- Commitment on behalf of the PSAP leadership will be a critical success factor; and
- Monitoring PSAP readiness nationally will provide lessons learned and best practices for other states deploying Phase I and Phase II services.

OTHER BUSINESS – WRAP UP

To conclude the meeting a discussion was held to identify potential members for the Steering Council. The general response from participants the Steering Council should comprise the presidents or chief officers of relevant stakeholder organizations participating in this Working Group, as well as fire, emergency medical, sheriffs; and federal Public Safety/National Security officials.

Mr. Bill Baker briefly reviewed the agenda for National Summit to elicit input from those in attendance. Following Mr. Baker's comments it was agreed upon by the Expert Working Group that they would convene again prior to the National Summit. A tentative date of January 8th, 2002 was agreed upon. Further, it was agreed that the group should continue the momentum while other organizations move forward with WE9-1-1 deployment.

Wireless E9-1-1 Expert Working Group
Meeting 2
- Summary -
January 8, 2002

WELCOME AND OPENING REMARKS

Bill Hinkle, Exert Working Group (EWG) Chairman welcomed the group and asked those in attendance to introduce themselves.

Minutes were approved from the December 8, 2001 EWG meeting.

DOT INITITATIVE STATUS AND PLANS

Jeff Michael of NHTSA provided a brief overview of the USDOT's WE9-1-1 initiative. Mr. Michael commented that the White House has expressed interest in making WE9-1-1 a Presidential Initiative. As a result there is uncertainty in the schedule. The National Summit will more than likely not be held on January 30th. The message being communicated to the White House Staff is that WE9-1-1 provides security and safety for the people. The project team is currently working with the Office of the Secretary of Transportation (OST) to move this initiative forward.

In addition, Mr. Michael commented that a bulk of today's meeting would be used to identify issues that the OST can help us to address to foster accelerated deployment of WE9-1-1.

Mr. Michael also commented on the status of identifying and selecting candidate Challenge States. Candidate Challenge States have been identified and forwarded the OST for consideration.

E9-1-1 IMPLEMENTATION BARRIERS

The focus of this activity was to discuss implementation barriers affecting the accelerated national deployment of WE9-1-1. Further, the discussion of these barriers was initiated to identify action items to be forwarded to OST. To guide this activity Jim Goerke, representing NENA, develop a strawman list of issues that was distributed to Expert Working Group members prior to the meeting. Barriers discussed were categorized into the following groups:

- Regulatory, Legislative, and Administrative Policy
- Technical/Operations
- Awareness/Education
- Resources
- Project Implementation Management

A key point derived from these discussions was the need to identify expected benefits of Phase I and Phase II WE9-1-1. It was agreed to by the group that potential benefits include:

- Saved lives,
- Response time savings that can translate into a multitude of cost savings (i.e., continual medical assistance, that can have significant economic impacts such as continued aid to crash/accident victims),
- More efficient use of response resources, and
- Enhanced personal and homeland security.

Steven Meer, representing Intrado, suggested that a white paper be developed that quantifies benefits of WE9-1-1 to help motivate and lend credibility to the initiative. Mr. Hinkle commented that implications on Homeland Security will be of significant interest to the White House. Further, it was agreed that there is considerable public demand for WE9-1-1 that will help foster momentum.

Steven Browne, representing the ITS Public Safety Advisory Group (PSAG), indicated that educating those responsible for managing and operating PSAPs on the implications of Phase I and Phase II will be critical to accelerating the deployment of WE9-1-1. Steven Meer added there are separate issues when trying to achieve Phase I for the first time, and achieving Phase II after you have achieved Phase I. A broad training program that covers issues associated with both of these will not work.

Kathryn Condello, representing CTIA, stated that the Expert Working group needs to identify potential actions that can be taken to accelerate deployment of WE9-1-1 need to be identified. She commented further that the Steering Committee should facilitate movement on what carriers and PSAPs alike should do to achieve this goal.

Discussions also focused on the status of Challenge States. Jeff Michael, commented that Challenge States have not been identified yet, although the OST has been provided with information on which to base selection. Once Challenge States have been identified, they will be used as a demonstration as to what can be achieved. Mr. Michael stated this should not hold up other deployments of WE9-1-1 while the results of the challenge states are determined.

Mr. Michael emphasized that states that are close to achieving Phase I or Phase II and can show accomplishments are likely to be selected. A Challenge State will not be one that shows potential for technical or institutional challenges. It is not the intent of the initiative to have Challenge States serve as laboratories. They will be given incentive to achieve Phase I and Phase II.

Bill Hinkle commented that once Challenge States have been identified they should proceed with development until problems are encountered. At that point optimal solutions can be identified, and the development process can continue. Implementation is the best way to identify challenges. Further, documenting problems and their solutions will be of significant benefit to those striving to implement Phase I and Phase II.

Steven Browne indicated challenges will be different for each state. Although the lessons learned from the Challenge States will be valuable, actions on the local level will be where the issues will be resolved and worked through. Bill Hinkle, agreed, but commented that there are still things the WE9-1-1 Initiative can do to move forward and to help get through bureaucratic issues. Mr. Goerke commented that a number of these issues will be addressed in NENA's contract.

Katherine Condello indicated the PSAPs biggest challenge today is the concern about how they are going to pay for implementation of Phase I and Phase II. Further exacerbating this challenge is the lack of legislation at the state level for cost recovery. John Benson agreed by stating that cost recovery is the primary challenge of achieving Phase II in the State of Iowa.

Jeff Michael posed the question who would be responsible for cost recovery. Jim Goerke commented that state statutes on a state-by-state basis would determine this. Bill Hinkle questioned whether or not we wanted to get down to this level on this initiative since it vary by each state, but we could identify or define a variety of cost recovery models that have been proven successful in other states.

Attention needs to be given to development and production of systems that support Phase I and Phase II capabilities. Technological development and production is not an issue effectively approached by a Presidential or Secretarial Initiative. Industry leaders will need to show leadership in this environment. Steven Browne emphasized the importance of developing and implementing systems that answer calls quickly initiate appropriate and accurate dispatch.

It was agreed that it is critical to examine existing infrastructure and systems to ensure Phase I and Phase II functional requirements can be supported. The White House might also be helpful in pushing for self-evaluations by carriers to ensure systems can accommodate functional requirements. However, Secretarial or Presidential involvement is not a forum to resolve technical challenges.

WIRELESS E9-1-1 ACTION ITEMS

Based on the discussion of barriers, the Expert Working Group developed categories of actions items to accelerate the national deployment of WE9-1-1. Bill Baker, USDOT's ITS Joint Program Office, commented that by identifying action items we are identifying issues for the Steering Group to address and have them make decisions on what actions they feel are suitable for pursuing to facilitate this initiative. Action items are discussed in detail in the following section. Specific actions items are listed below. Action items in italics are those identified by the Expert Working Group as priorities.

Technical Assistance

- Provide education for regulatory clarity
- Document and make available cost recovery models
- Document case studies demonstrating performance compliance

- Document case studies on operational strategies

PSAP Community

- Focus deployment efforts on infrastructure procurement and development
- Anticipate changes that may occur in during the course of deploying WE 9-1-1
- In cooperation with industry, provide consumer education on service expectations
- ***Work towards statewide coordination***
- ***Encourage immediate movement (PSAP readiness/request for service).***

State and Local Government

- Develop unified statewide plans
- ***Identify a single point of contact within each state to foster leadership and accountability in the deployment of WE9-1-1.***
- Resolve cost recovery and funding issues
- Continue state regulatory commissions focus on E9-1-1 implications
- Anticipate changes that may occur in during the course of deploying WE 9-1-1
- ***State and local leaders actively lead convening stakeholders, and identifying and resolving issues***
- Coordinate service agreements/contracts (state-county-municipality)
- Within each state develop a method to prioritize deployment

Industry

- Focus on infrastructure development and production
- ***Production of systems supporting WE9-1-1 is urgently needed. These systems have national security implications***
- Appropriately anticipate change. New challenges are emerging.
- In partnership with PSAPs provide consumer education on service expectations

Other

- Define forum to discuss needs for regulatory change on state interconnection issues and FCC rules
- FCC monitoring
- Develop testing standards for performance compliance
- Define system operations standards
- Initiate strategic planning efforts and anticipate changes occurring during implementation of WE9-1-1
- ***Determine availability of external funds***

ISSUE PATH TO STEERING COUNCIL

Jeff Michael outlined the steps being taken in the WE9-1-1 Initiative to foster Steering Council involvement and actions that OST and/or the White House may lend support to. These steps to foster accelerated deployment of WE9-1-1 include:

1. Identification of issues
2. Identification of barriers
3. Identification of action items
4. Briefing paper development for steering committee
5. Steering committee meeting to discuss briefing papers and action items

In addition, Mr. Michael commented that the National Governors Association is a key stakeholder organization that the Expert Working Group and Steering Council should be working with to the extent possible. Mr. Goerke commented that fostering leadership at the state level is critical.

SUMMIT AGENDA

The Expert Working Group did not arrive at any conclusions on the National Summit because of the uncertainty regarding OST or White House involvement. It was agreed that the Expert Working Group will be present at the Summit and Steering Council Meeting.

OTHER BUSINESS

Jeff Paniati recommended that the Expert Working Group meeting should be scheduled for late February, regardless of White House and/or OST involvement in the initiative.

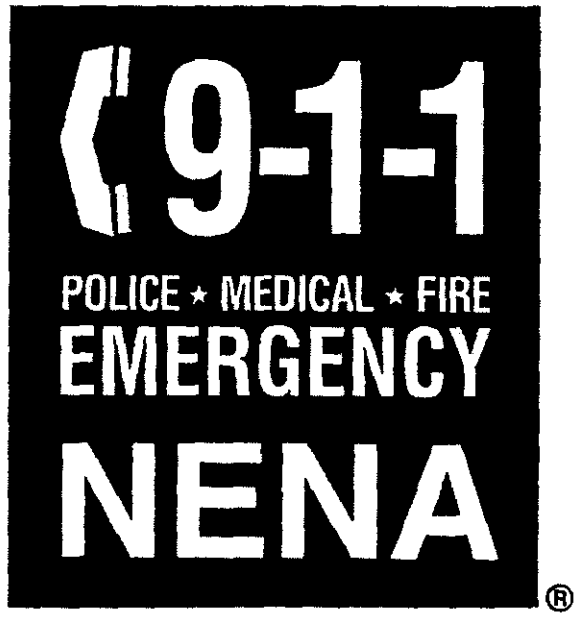
Mr. Bob Clarke announced that John Magaw has been appointed as Under Secretary for Transportation Security.

WRAP UP AND NEXT STEPS

Minutes from the Expert Working Group will be distributed early the week of January 14, 2002.

Background Information

Fact Sheets Prepared for Wireless E9-1-1 Expert Working Group Meeting #1



The National Emergency Number Association

Enhanced Wireless Emergency Communications

DOT – Fact Sheets

November 2001

FACT SHEET

Enhanced Wireless Emergency Communications
Public Safety Setting

In 1999, 190 million calls were placed to public safety answering points (PSAP) around the country. Fifty million calls, or 26.5% of that call volume, originated from a wireless, mobile telephone.[1[1]] That statistic is even higher in many metropolitan areas (amounting to 50% in some PSAPs). The Cellular Telecommunications and Internet Association (CTIA) estimates that there were 110 million wireless telephones in the United States during 2000, resulting in an average of one annual 9-1-1 call, for every two wireless subscribers. This represents a substantial growth from approximately 340,000 subscribers in 1985 generating 193,000 wireless 9-1-1 calls.[2[2]]

Without question, 9-1-1 calls placed from mobile telephones save lives every day. Although the mobile nature of those calls makes it more difficult, the general public rightfully expects the public safety community to respond to these calls in much the same way they respond to similar calls placed from fixed, landline telephones, including the automatic identification of the telephone number and location of the calling party.

FCC Involvement

In a series of orders since 1996, the Federal Communications Commission (FCC) has taken action to improve the quality and reliability of 9-1-1 emergency services for wireless phone users.[3[3]] Those orders and rules encompass two phases of wireless service. As characterized by the FCC, the two phases are levels of service similar to but not exactly analogous with ANI and ALI levels of wireline service. Phase I includes calling party number (i.e., ANI), as well as, rudimentary location information (i.e., cell tower location). This provides the emergency call-takers with the ability to re-establish a connection with the caller, if the call is disconnected. Phase II involves deploying technology that provides a much greater degree of location accuracy, moving the service much closer to wireline enhanced 9-1-1 (E9-1-1). The above rules accommodate two types of Phase II location technology: handset based (with GPS functionality, for example), and network based (using functional characteristics of wireless networks to triangulate or calculate location). For network-based solutions, the accuracy standard is 100 meters for 67% of calls, and 300 meters for 95% of calls. For handset-based solutions the standard is 50 meters for 67% of calls, and 150 meters for 95% of calls.[4[4]] Without respect to a request from a PSAP, carriers electing to utilize a handset based solution are subject to additional requirements in regard to the selling and activation of Phase II capable handsets.[5[5]]

By October 2001, the FCC had approved carrier deployment plans that reflected waivers or deviations from either/or both the deployment timeframes and accuracy standards inherent in the

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1[1] National Emergency Number Association, "Report Card to the Nation: The Effectiveness, Accessibility and Future of America's 9-1-1 Service," Congressional Summary (September 2001).
2[2] See CTIA's website, "Industry Issues and Answers" (www.wow-com.com).
3[3] See "Fact Sheet: FCC Wireless 911 Requirements," Federal Communications Commission (January 2001).
4[4] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102 (revised in the docket's Third Report and Order) and codified in 47 C.F.R. § 20.18(g).
5[5] FCC Fact Sheet, ibid.

adopted orders (see attached *FCC Approved Deployment Summary Table*). Those approvals involved six national carriers, and were based upon carrier identified issues associated with the production of Phase II handsets, mobile switching center (MSC) upgrades, and landline 9-1-1 network infrastructure.[6][6]

Congressional Involvement

In October 1999, Congress passed the *Wireless Communications and Public Safety Act of 1999*.[7][7] Within the Act, Congress found that

> ". . . the establishment and maintenance of an end-to-end communications infrastructure among members of the public [safety community], . . . will reduce response time for the delivery of emergency care, assist in delivering appropriate care, and thereby prevent fatalities, substantially reduce the severity and extent of injuries, reduce time lost from work, and save thousands of lives and billions of dollars in health care costs."

The Act speaks specifically to the deployment of a nationwide, seamless communications infrastructure for emergency services that includes wireless communications. Among other things, it also formally established "9-1-1" as the universal emergency telephone number within the United States for reporting an emergency to appropriate authorities, and addressed liability, privacy and 9-1-1 information provisioning and use issues. The FCC is currently involved in rulemaking procedures to implement the legislation.

PSAP Involvement

By order, a carrier is obligated to provide wireless E911 service only upon request by a PSAP, and then, only if the PSAP is capable of receiving and utilizing the information involved. What constituted PSAP Phase II capability or "readiness" was a matter of some debate until October 2001. In response to a petition filed by the City of Richardson, Texas, the Commission amended its rules to clarify what constitutes a valid PSAP request for enhanced wireless service.[8][8] Upon a carrier challenge, a PSAP request will be deemed valid if the PSAP demonstrates that:

- A mechanism is in place by which the PSAP will recover its facility and equipment costs to receive and utilize the E911 data elements;
- The equipment necessary to receive and utilize the E911 data has been ordered and will be installed and capable of receiving and utilizing that data no later than six months following its request; and
- A timely request has been made to the appropriate local exchange carrier (LEC) for the necessary trunking and other facilities, including any necessary Automatic Identification Location (ALI) database upgrades, to enable the E911 data to be transmitted to the PSAP; or

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[6][6] Voicestream, Nextel, Cingular, AWS, Verizon, and Sprint.
[7][7] S. 800, 106th U.S. Congress.
[8][8] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, revised in response Richardson Petition (October 17, 2001).

- As an alternative to the above, a funding mechanism is in place, and the PSAP is Phase I capable using a "Non-call Associated Signaling (NCAS)" technology (*see Technical Foundation Fact Sheet*).

Nationwide, there are nearly 7,500 PSAPs, of which 5,000 are primary centers directly receiving calls from calling parties. Of the latter, 3,300 accept wireless calls, and while some of the other centers have elected not to receive such calls, that practice is changing. Furthermore, in some states, wireless calls are routed to specific types of PSAPs. For example, California, Kentucky, Maine, Virginia and Massachusetts route calls to the state police or highway patrol. In Minnesota and Wisconsin, routing is decided by local option, and some counties have elected to send their wireless calls to state police communication centers. In other states, identified, central PSAPs serve the same function. Going forward, much of this is changing with the deployment of Phase I and Phase II wireless service that more accurately allows calls to be routed to the most appropriate PSAP.

FACT SHEET

Enhanced Wireless Emergency Communications
Implementation Process and Status

The implementation of wireless 9-1-1 services involves a close working relationship between a number of parties, including but not limited to a public safety answering point (PSAP), a 9-1-1 system service provider (usually a wireline local exchange company), and a wireless service provider (see *Technical Foundation Fact Sheet*). Other parties involved may, but not necessarily, include third party database and service control point (SCP) providers (depending upon the wireless solution selected), consulting and technical assistance agencies serving either the wireless carrier, the PSAP, or both, customer premises equipment (CPE) and CAD vendors, and others as necessary and appropriate. Phase II not only involves the above parties, but others as well, including location technology providers, mapping and GIS software vendors and consultants, and system integrators.

The implementation process involves a number of steps, including, but not limited to the following:

- Decision to implement;
- Initial 9-1-1 system service provider contacts to determine the company's ability to provide wireless 9-1-1 service, their preferred technology, and the potential impact on serving facilities and CPE;
- Wireless carrier notification;
- Planning, including the method of wireless 9-1-1 call delivery, facility requirements, routing, costs, testing, and project implementation;
- Cell coverage identification;
- Establishment of functional databases; and
- Implementation.

Phase II builds upon the above process and involves similar steps, including, but not limited to the following:

- Initial Decision, based upon PSAP readiness for Phase II (see *Public Safety Setting Fact Sheet*);
- Administrative and contractual requirements, along with the development of wireless E9-1-1 policies and procedures designed to maintain enhanced wireless service;
- Wireless carrier notification;
- Technical requirements for Phase II, including network, database, and CPE needs; and
- Implementation.[9]

[9] Phase I and Phase II can be ordered simultaneously, but most likely will be implemented sequentially by the wireless carrier.

Statutory and Funding Environment

By July 2001, all but ten states had passed legislation establishing some type of wireless fee or cost recovery mechanism (see attached *State Wireless Statutory Summary Table*).[10] Of the ten states without legislation, at least four are in progress, and one (Vermont) is budgeting for it through legislative appropriation. Of the other states, statutory, subscriber based fees range from 25 cents to $2 per month, with the average closer to 60 cents.

In 28 states, the fee revenue flows through a centralized fund (usually at the state level), that is managed by a state board, commission or some other single point of contact to oversee the distribution of funds involved, and, to some extent the implementation process.[11] The proceeds are distributed to local government, and, in some cases, directly to service providers for cost recovery.[12]

Statutory cost recovery language varies, though most statutes provide cost recovery, as well as some degree of carrier limitation of liability, for both public safety and provider costs up to the limit of the revenue streams involved.[13]

Status of Deployment

Based on public safety and industrial sources, the majority of primary PSAPs have requested Phase I service. Of those PSAPs, 40% (approximately 2,100) has deployed the service, representing 9,500 carrier specific PSAP requests, with nearly 2,800 requests deployed. It is anticipated that much of the country will soon be Phase I compliant.

Phase II is another matter. Most national carriers indicate that they have received between 80-100 Phase II requests, representing 500-600 PSAPs.

- Minnesota, New Jersey, Connecticut, and Rhode Island have all placed statewide requests.
- Oregon (the state) has placed a request for 15 PSAPs, covering most of their population base.
- California is preparing to place a statewide request; Los Angeles and San Francisco have already submitted requests. .
- Several other large metropolitan areas around the country have also submitted requests, including Chicago, Houston, Kansas City, Washington DC and Miami).

While it is clear that many PSAPs are not yet ready for Phase II, many are, representing large populations. Phase II is currently deployed and operational in at least two areas of the country, including St. Clair County, Illinois, and the State of Rhode Island.[14]

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[10] The ten states include Hawaii, Idaho, Kansas, Massachusetts, Missouri, Ohio, Pennsylvania, Vermont, Wisconsin, and Wyoming. California uses its existing 9-1-1 surcharge to fund wireless implementation.

[11] The centralized approach usually involves one of three types of state mechanisms: a state board or commission; a state, single point of contact (staff of an existing agency, for example); or, a single point of contact with an advisory committee or board of some sort.

[12] In most other states, where service provider cost recovery is authorized, said cost recovery is provided through local government.

[13] In November 1999, the FCC revised its E9-1-1 rules to remove the prerequisite that a cost recovery mechanism for wireless carriers be in place before carriers are obligated to provide service in response to a PSAP request.

FACT SHEET

Enhanced Wireless Emergency Communications
Technical Foundation

9-1-1 is ultimately a telecommunications based service, and, as such, is provided over the networks and infrastructure of both wireline and wireless telephone companies. Thus, implementing wireless 9-1-1 service is often complicated, time consuming and technical. When the decision to set a wireless 9-1-1 time table was made, the hundreds of E 9-1-1 networks and data systems in the country, supporting potentially 5000 primary PSAPs, were not yet capable of fully supporting the requirements. Either a new 9-1-1 structure was required, or modifications and/or upgrades were necessary on what is essentially a national scale.

Over the last 2-3 years, this problem has largely worked itself out among the parties to the wireless E 9-1-1 developmental process. Modifications and additions to the established E 9-1-1 systems which support both Phase I and II have been worked out. There are now a few fairly well defined methods to accomplish the service, with national standards in place or being completed.

E 9-1-1 System Architecture

A diagram of the pre-wireless Phase I E 9-1-1 system is shown in the attachment, Figure 1. This design supported wireline carriers (Incumbent Local Exchange Carriers and more recently the newer Competitive Local Exchange Carriers).

For Wireless E 9-1-1 Phase I, basically three methods are available, with two of these being utilized (See Figure 2). These are generally known as 'NCAS' and 'Hybrid' – the difference is essentially in how data elements are transported from the wireless carrier through the 9-1-1 service system to the PSAPs. The third option, CAS (Call Associated Signaling), requires that the connection to the PSAP handle more data than the in-place trunking supports. Since other considerations make CAS an unlikely solution in the foreseeable future for Phase II, there has been no clear driver for PSAPs or 9-1-1 system service providers to invest in this change (even though other wireless and non-wireless factors make it inevitable during the next few years).

The same two solutions are applicable to Phase II, but with further modifications and additions to support Phase II specific requirements, as shown in Figure 3.

Standards

Only formal and informal technical standards generic to general E 9-1-1 service existed at the point when the FCC defined the Wireless E 9-1-1 mandate and initial orders. Three national standards specific to or supportive of wireless E 9-1-1 were developed over the last four years. These were J-STD-034 and 036, and the NENA Enhanced MF trunking standard. Specific standards and technical guidelines are still in progress, mostly through efforts of the NENA technical committee process. These include Data Exchange, Congestion Control, E2 interface (X-Y location data transfer), and ALI Display standards. It has been possible to develop these only as various factors in how wireless Phase II will be managed have become clearer in the near past.

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[14] Carriers involved include Verizon in St. Clair County, and Sprint in Rhode Island.

Technical Deployment Requirements

The several parties and partners involved in planning and implementing wireless E 9-1-1 each have specific deployment responsibilities. Each of the main partners shown below has, in turn, vendors that they must direct and rely upon to accomplish these responsibilities. The partners and their vendors are interdependent, and close interaction is essential to accomplishing wireless E 9-1-1 deployment.

Public Safety Agency

- CPE vendors - equipment upgrades;
- CAD and Mapping vendors - software and equipment changes and additions.

Wireless Carrier

- Telephone Switch Manufacturers - designers of Mobile Switching Center (MSC) software that supports wireless 9-1-1;
- 3rd Party Vendor - consulting and development activities to the wireless carrier, SCP services (NCAS/SCP method), project planning and management, data base development and loading, testing planning and management, ongoing service maintenance functions, and other support functions;
- Handset Manufacturers - development and manufacturing of feature specific handsets (including GPS capable for Phase II compatibility);
- Inter-exchange Carriers - provide connectivity via interstate and interlata facilities;
- Location Determination Technology (LDT) Developers and Manufacturers - provide LDT hardware, software, MPC equipment for data management and transmission;
- E 9-1-1 System Service Provider (service provider to both PSAP and wireless carrier) - provides access to Selective Routing and ALI data server (NCAS/SCP) to wireless carrier (or their SCP provider), wireless carrier circuit order and provisioning support, trunking to PSAP, software capability in Selective Router for Hybrid and CAS methods, integration and testing support to both wireless carriers and PSAPs; and
- Telephone Switch Manufacturers - designers and manufacturers of Selective Router switch and software features needed for wireless E 9-1-1 functions.

Status of Technology

The technology to support NCAS and Hybrid methods is developed and being deployed for Phase I. The additions needed for Phase II are being developed and trialed. These include Location Determination systems, data interface software and associated systems, and data handling software in the ALI server and PSAP equipment areas. Since there are a number of potential vendors, there are also as many levels of preparedness (as of November 2001). In the case of wireless handset GPS methods of location determination, the logistics of manufacturing GPS-enabled handsets in sufficient quantities, and getting them distributed, is a major dependency.

In addition, as wireless E 9-1-1 implementations take place, experience results in the recognition of needed improvements, which are gradually being accommodated in the ongoing development process.

	CARRIER STATUS				STATE STATUS						
IS PHASE 1 IN THIS STATE?	# of Carriers Reporting	No Phase 1	Active Phase 1 Deployment	Phase 1 Implemented Somewhere in State	NO Ph1	Pre Ph1	Ph 1	Central Planning Body?	TECH Preference?	Cost Recovery (CR) Status	NOTES:
Alabama	5	1		4			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Alaska	2	2			1					Post-CR Carrier Compensation	
Arizona	7	2	3	2			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Arkansas	6	3	1	2			1				
California	6	3	3			1		Y		No Carrier CR	
Colorado	6		2	4			1			Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Connecticut	4	2	2			1		Y	CAS	Pre-CR Carrier Compensation	
DC	4	4			1			Y			
Delaware	4	4			1			Y			
Florida	6			6			1	Y		Pre-CR Carrier Compensation	
Georgia	7	1	1	5			1	Y		Pre-CR Carrier Compensation	
Hawaii	3	3			1						
Idaho	5	4	1			1				No Carrier CR	
Illinois	6	1	1	4			1	Y		Pre-CR Carrier Compensation	
Indiana	5	1	1	3			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Iowa	6	2	4			1		Y		Pre-CR Carrier Compensation	
Kansas	8	8			1					No Carrier CR	
Kentucky	6	2	2	2			1	Y		Pre-CR Carrier Compensation	One carrier has implemented Phase 1 50% through the state.
Louisiana	5	2	1	2			1			Pre-CR Carrier Compensation	
Maine	5	4	1			1		Y		No Carrier CR	
Maryland	6	4	2			1		Y		No Carrier CR	
Mass.	4	3	1			1		Y	NCAS*		
Michigan*	7	2	2	3			1	Y		Pre-CR Carrier Compensation	
Minnesota	6	1	4	1			1	Y		Pre-CR Carrier Compensation	
Mississippi	4	2	1	1			1			Pre-CR Carrier Compensation	
Missouri	8	5	3			1		Y		No Carrier CR	
Montana	3	2	1			1		Y			
Nebraska	5	3	2			1					
Nevada	5	5			1					Pre-CR Carrier Compensation	
New Hampshire	5	4	1			1		Y		Pre-CR Carrier Compensation	
New Jersey*	5	1	2	2			1	Y	CAS	Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
New Mexico	6	4	2			1		Y			
New York	5	3	2			1					
North Carolina	5		1	4			1	Y		Pre-CR Carrier Compensation	One carrier has implemented Phase 1 throughout 2/3 of the state.
North Dakota	2		2			1		Y			
Ohio	7	4	3			1		Y		No Carrier CR	
Oklahoma	7	7			1					Pre-CR Carrier Compensation	
Oregon	5	3		2			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Pennsylvania	7	5	2			1				No Carrier CR	
Rhode Island	4	1		3			1	Y	RI-CAS	Pre-CR Carrier Compensation	Two carriers have fully implemented Phase 1 throughout the state
South Carolina	5	1		4			1	Y		Pre-CR Carrier Compensation	
South Dakota	3	1	1	1			1	Y			
Tennessee	7	2	1	4			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Texas	8			8			1	Y	Hybrid?	Pre-CR Carrier Compensation	Two carriers have fully implemented Phase 1 throughout the state
Utah	5	5			1						
Vermont	3	3			1			Y	NCAS	No Carrier CR	
Virginia	5	1	1	3			1	Y		Pre-CR Carrier Compensation	At least one carrier has fully implemented Phase 1 throughout the state.
Washington	4	1	1	2			1	Y		No Carrier CR	
West Virginia	6	1	2	3			1			Pre-CR Carrier Compensation	
Wisconsin	6	6			1					No Carrier CR	
Wyoming	4	4			1			Y			
	268	133	60	75	10	16	24	34?			INFORMATION CURRENT AS OF 7/15/2001

State	Wireless Funding	Single Fund	Wireless Funding Amt. ($)	Comments	Portion to Public Safety?	PS Amount	PS Purpose	Portion to Wireless Carrier?	WC Amount	WC Purpose	Legislation Type
Alabama	YES	YES	0.70	NA	YES	56%	Upgrading equipment & operating costs for E911	YES	44%	E911 cost recovery	Governing Statute
Alaska	YES	NO	0.50, 0.75	Municipalities with pop. >100K; Municipalities with pop.<100K	YES	Undetermined	E911 operations	YES	Undetermined	E911 cost recovery	HB 186
Arizona	YES	YES	0.37	NA	YES	Undetermined	E911 operations	YES	Undetermined	E911 cost recovery	HB 2625
Arkansas	YES	YES	0.50	NA	YES	38%	E911 operations	YES	58%	E911 implementation	HB 309
California	YES	NO	0.72	Could increase to $0.75	YES	Undetermined	Specifics undetermined	NO	NA	NA	HB 1263
Colorado	YES	NO	0.70	Will not exceed current surcharge.	YES	Undetermined	ALI/ANI services	YES	Undetermined	Cost recovery for equipment	Governing Statute
Connecticut	YES	YES	0.28	Surcharge per access line; sliding scale down to $0.06 per line if over 100.	YES	Undetermined	E911 expenses	YES	Undetermined	E911 expenses	Governing Statute
Delaware	YES	YES	0.60	NA	YES	Undetermined	E911 operations	YES	Undetermined	E911 implementation	HB 283
District of Columbia	YES	NO	0.56	NA	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined
Florida	YES	YES	0.50	NA	YES	44%	Full cost recovery - E911 expenses	YES	54%	Full cost recovery - E911 expenses	Governing Statute
Georgia	YES	NO	1.00	Lower surcharge will be issues - $1.00 or amount charged to wireline.	YES	Undetermined	Phase 1 cost recovery	YES	30%	Phase 1 cost recovery	Governing Statute
Hawaii	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Illinois	YES	YES	0.75	NA	YES	67%	E911 maintenance and upgrade costs	YES	33%	E911 cost recovery	Governing Statute
Indiana	YES	YES	0.65	NA	YES	54%	E911 cost recovery	YES	39%	E911 cost recovery	Governing Statute
Iowa	YES	YES	0.50	NA	NO	NA	NA	YES	100%	E911 cost recovery	Governing Statute
Kansas	NO	NA	NA	Proposed legislation did not pass.	NA	NA	NA	NA	NA	NA	HB 2034
Kentucky	YES	YES	0.70	NA	YES	50%	Upgrading equipment & operating costs for E911	YES	50%	Upgrading equipment & operating costs for E911	HB 99
Louisiana	YES	NO	0.85	Will not exceed current surcharge.	YES	Undetermined	Specifics undetermined	YES	Undetermined	Specifics undetermined	HB 426
Maine	YES	YES	0.50	NA	YES	Undetermined	E911 staffing & operating costs	NO	NA	NA	Governing Statute
Maryland	YES	YES	0.60	NA	YES	Undetermined	E911 system costs	NO	NA	NA	Governing Statute
Massachusetts	NO	NA	0.30	Proposed legislation is pending.	NA	NA	NA	NA	NA	NA	Senate Bill 1920
Michigan	YES	YES	0.55	NA	YES	48%	Specifics undetermined	YES	48%	Specifics undetermined	Governing Statute
Minnesota	YES	YES	0.27	Includes range of $0.08 and $0.30 plus $0.10 interim fee per month.	YES	50%	E911 cost recovery	YES	12%	E911 cost recovery	Governing Statute
Mississippi	YES	YES	1.00	NA	YES	70%	E911 operations	YES	30%	E911 implementation	Governing Statute
Missouri	NO	NA	NA	Proposed legislation did not pass.	NA	NA	NA	NA	NA	NA	HB 826
Montana	YES	NO	0.50	Split between basic and enhanced 911.	YES	Undetermined	Specifics undetermined	YES	50%	E911 implementation	Governing Statute
Nebraska	YES	YES	0.50	Will not exceed current surcharge.	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	Specifics undetermined	Legislative Bill 585
Nevada	YES	NO	0.25	Affects counties with less than 40K, but more than 100k in population.	YES	Undetermined	Personnel costs related to E911 implementation.	YES	Undetermined	E911 implementation	Senate Bill 569

Updated as of: 3/29/2002
Gretchen Crider

Source: CTIA, Intrado

State	Wireless Funding	Single Fund	Wireless Funding Amt. ($)	Comments	Portion to Public Safety?	PS Amount	PS Purpose	Portion to Wireless Carrier?	WC Amount	WC Purpose	Legislation Type
New Hampshire	YES	NO	0.42	NA	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
New Jersey	YES	YES	Not stated in statute	Annual appropriation	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
New Mexico	YES	YES	0.51	NA	YES	Undetermined	E911 operations	YES	Undetermined	E911 implementation	HB 339
New York	YES	NO	0.70	All surcharge moneys are earmarked for payment of state police costs related to the statewide operation of cellular 911.	NO	NA	NA	Undetermined	Undetermined	Specifics undetermined	Governing Statute
North Carolina	YES	YES	0.80	NA	YES	40%	E911 operations	YES	60%	E911 implementation	Governing Statute
North Dakota	YES	NO	1.00	Will not exceed current surcharge.	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Senate Bill 2067
Ohio	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oklahoma	YES	NO	0.50	Until contributions equals $5 million.	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
Oregon	YES	YES	0.75	NA	Undetermined	Undetermined	Specifics undetermined	YES	35%	E911 implementation	Governing Statute
Pennsylvania	NO	YES	0.50	Proposed legislation is pending.	NA	NA	NA	NA	NA	NA	Senate Bill 884
Rhode Island	YES	YES	0.47	NA	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
South Carolina	YES	YES	0.55	NA	YES	39%	Personnel costs related to E911 implementation.	YES	57%	E911 implementation	Governing Statute
South Dakota	YES	NO	0.75	NA	YES	Undetermined	E911 operations	NO	NA	NA	Governing Statute
Tennessee	YES	YES	1.00	NA	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
Texas	YES	YES	0.50	NA	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
Utah	YES	NO	0.53	NA	Undetermined	Undetermined	Specifics undetermined	YES	Undetermined	E911 implementation	Governing Statute
Vermont	NO	YES	NA	911 system financed through annual legislative appropriation.	YES	Undetermined	E911 operations	NO	NA	NA	Governing Statute
Virginia	YES	YES	0.75	NA	YES	Undetermined	E911 operations	YES	Undetermined	E911 implementation	Governing Statute
Washington	YES	YES	0.25	NA	YES	Undetermined	E911 operations	NO	NA	NA	Governing Statute
West Virginia	YES	NO	0.94	NA	YES	Pro rata share of proceeds.	E911 operations	YES	Undetermined	E911 implementation	Governing Statute
Wisconsin	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wyoming	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Updated as of: 3/29/2002
Gretchen Crider

Source: CTIA, Intrado

MOTOROLA

Motorola A820

Torn between needing a mobile office and wanting a high-tech toy? There's no need to choose with the Motorola A820. For fast-paced business trips around the globe, the Motorola A820 provides a multi-functional voice/data solution. On a personal note, take the fun a step further by customizing your messages with video or audio files. And, for that much needed down time, choose from fashionable entertainment with the embedded MP3 player, a suite of games and the integrated video camera that allows you to show your world to others – whether that world is in Italy, Hong Kong or Down Under! The Motorola A820 brings in the dawn of a new mobile phone experience – are you ready for the MotoMothership?

- **Tifs Or Gifs**
  Impress your friends with video postcards and visually rich messages with new MMS (Multi-media Messaging Service)* technology. You don't have to be tech-savvy to use this fun feature – just attach audio and video files to e-mail messages and send with a smile!

- **Multi-faceted, Multi-talented**
  The Motorola A820's Multi-call feature allows you to be on a voice call and download data from the Net at the same time, proving that our technology is as smart as it looks. You can multi-task, so why shouldn't your phone?

- **Tailor Made**
  Customize your phone by adding the latest games and applications. Have fun with the newest in animated graphics, easily seen on the large screen and more than 4,000 unique colors.

- **Dancin', Dancin', Dancin'**
  With an embedded MP3 player, you'll be dancing all night long. Download hours of your favorite MP3 music with a few easy steps and let the tunes take control. March to your own drummer and download the latest MP3 samples for your own personalized ring tones.

- **The Phone Heard 'Round the World**
  With 2G, 2.5G and 3G technology combined in one device, the Motorola A820 operates in most major cities in more than 170 countries, keeping you connected while on the go.

- **Lost And Found**
  A-GPS helps you locate your position and get you where you need to go*. Find the nearest restaurants, bars or movie theatres easily -- your biggest decision will be what to choose!

- **Do You See What I See?**
  The integrated video camera allows you to capture still shots and download movie clips to preview remotely at will. Now you can get the last laugh by sending photos as e-mail attachments.

For more information, please contact:

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** Network, subscription and SIM card or service provider dependent feature. Not available in all areas.*

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U.S. Transportation Officials Call For National Commitment to Wireless E9-1-1 System

U.S. Transportation Secretary Norman Y. Mineta, Transportation Chief of Staff John Flaherty and National Highway Traffic Safety Administrator Jeffrey W. Runge, M.D., at a national E9-1-1 summit today called on public safety officials, the telecommunications industry and communities across the country to accelerate implementation of wireless enhanced 9-1-1 (E9-1-1) services.

The summit in Arlington, VA, was convened at the direction of Secretary Mineta. "Events of September 11 highlight the need to be able to quickly and precisely locate people when they make 9-1-1 calls on cellular phones," Secretary Mineta said. "When people are injured, response time is critical in determining survivability, and bringing experts together like this will help expedite deployment of wireless E9-1-1."

When completed nationwide, enhanced wireless 9-1-1 will enable public safety call centers to exactly locate cellular telephone users making emergency calls. Ninety-eight percent of America's population can quickly be located when making emergency calls from residential, landline phones. However, 25 percent of 9-1-1 calls are placed from wireless phones, and 40 percent of these calls are not covered by enhanced 9-1-1.

Elected officials, representatives from the wireless industry, State and local governments, public safety call centers, emergency medical services, police and fire departments, and the transportation industry participated in the summit. The Department will continue to work with the Federal Communications Commission in implementing E9-1-1.

Less than 40 percent of wireless phone users are covered by service that provides caller number identification. Location identification service for wireless telephone users is not yet available across most of the United States. If traveling 9-1-1 callers become disoriented, lost or are unable to speak, emergency response to their wireless calls will normally be delayed without E9-1-1.

Implementing a wireless E9-1-1 system that identifies the location of callers is complex because of the new technology it requires and the changes that will be necessary in the processes for handling and responding to emergency calls.

Accelerating wireless E9-1-1 implementation is a key initiative of Secretary Mineta and is coordinated through DOT's Intelligent Transportation Systems (ITS) program. ITS saves lives, time, and money through combining advanced communications and transportation technologies to manage and operate surface transportation systems. For more information, visit DOT's ITS web site at www.its.dot.gov.

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